

REMARKS

Claim Rejections – 35 USC § 102

Claims 26, 27, and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,324,781 to Stevens.

Regarding Claims 26, 27, 38, Stevens teaches a colored mulch product (Stevens abstract line 2) consisting essentially of: a material comprising a fiber cellulose, clay, loam, sand, and/or a combination of same; a binding agent (Stevens Col. 2, line 2); and a dye and /or pigment (Stevens Col. 6, line 35). Stevens teaches a dye and that the dye indicates to a user environmental conditions of the soil where the mulch is placed. The mulch of Stevens includes both a dye and a fertilizer. Therefore, when the user sees the mulch color the user will know that mulch has been applied to that portion of soil along with a fertilizer i.e. that soil portion has been fertilized which is an environmental condition.

The Examiner maintains that Stevens teaches a mulch product made up of fiber cellulose, binder, dye and fertilizer/additives (Stevens abstract; Col. 2, lines 1-2; Col. 4, line 50, Col. 6, line 35). The language “indicates to a user environmental conditions of the soil where the mulch is place” is functional language/result of the use of the product that the product is “capable: of performing. The applicant has not claimed a specific type or special dye; applicant has not claimed what environmental conditions; applicant has not claimed how the dye works. Applicant has merely claimed a dye. The color from the dye is capable of

indicating to the user that the mulch has been placed on a desired surface and that the environmental condition of the soil under that mulch is in a stage of fertilization since fertilizer is present in the mulch and over time will be absorbed into the soil. The mulch can also contain seeds (Stevens abstract), so when the mulch is placed in position and has seeds present it indicates to the user that the "environmental condition" of that soil area is "planted". Applicant has not patentably distinguished over the prior art of record.

Applicant's inventions maybe to claim that the present invention teaches that the mulch indicates the condition of the soil so that other things can be added to the soil to improve its environmental condition. However, applicant has not claimed this and independent claim 26 is a product claim not a method claim. The structural limitations claimed in claim 26 are all taught by Stevens.

The Examiner reiterates, in response to applicant's argument that Stevens colors the mulch for appearance, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.

Stevens teaches a mulch or seed mat. This is illustrated by the title of the invention, the abstract, the figures and throughout the specification. The mat is formed by treating the paper with an adhesive and depositing the paper onto a conveyor. The present application teaches against the use of a mat as

chemically bonded mulch forms an almost impenetrable layer over the seed bed. Further, Stevens teaches that the mulch mats have a paper backing to serve as a carrier or support for the mat. Because the mulch does not make contact with the soil as taught by Stevens, since it is in mat form, it cannot indicate to a user environmental conditions. Further, Stevens states that a coloring may be added to the mat to enhance the appearance of the mat.

Further, Stevens requires that other elements are added to create the mat since the language of the claim is "consisting essentially of" these other elements fall outside the scope of the claim.

Further, the Examiner has argued that the language "said dye indicates to a user" means that the product is capable of performing. The language does not state that the dye can indicate, nor that the dye may indicate, but that said dye indicates, therefore, the Examiner has made an incorrect statement. For all the above reasons, Claims 26, 27 and 38 are not anticipated or obvious over Stevens.

Claim Rejections – 35 USC § 103

Claims 26, 27, 28, 29, 30, 38, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,324,781 to Stevens in view of U.S. Patent No. 6,019,062 to Lombard et al.

Regarding Claims 26, 28, 29, 30 and 50, Stevens teaches a colored mulch product (Stevens abstract line 2) consisting essentially of: a material comprising a fiber cellulose, clay, loam, sand, and/or a combination of same; a binding

agent (Stevens Col. 2, line 2); and a dye and/or pigment (Stevens Col. 6, line 35). Stevens teaches a dye, but is silent on the dye indicates to a user environmental conditions of the soil where said mulch is placed; the dye indicates to a user the acidity of said soil; the dye indicates to a user the moisture content of said soil; or the dye indicates to a user the chemical content of said soil and it is an environmentally safe dye (Lombard abstract second to last line).

Lombard et al teaches a dye indicator i.e. a pH indicating dye for application to cellulosic material such as paper (Lombard Col. 2 line 1-5 and Col. 2 line 11-15; Col. 2 line 60-67). It would have been obvious to one of ordinary skill in the art to modify the teachings of Stevens with the teachings of Lombard at the time of the invention since the modification is merely an engineering design choice involving the selection of a known alternate dye selected for the known advantage of monitoring pH levels as taught by Lombard and is an environmentally safe dye as taught by Lombard (Lombard abstract).

Regarding Claim 27, Stevens as modified teaches the mulch comprising; nitrogen, phosphorous, and potassium fortifiers (Stevens abstract last line).

Regarding 38, Stevens as modified teaches the mulch is the same or similar color of an actual plant, flower, fruit, or vegetable of a seed planted with the mulch (Stevens Col. 6, lines 37).

Applicant argued that the Lombard reference is a visual indicator where urine is present and there is no teaching to combine the reference of Lombard

and Steven. However, the Examiner maintains that there is some teaching and motivation found both in the references and in the knowledge generally available to one of ordinary skill in the art. Stevens teaches a mulch of shredded paper. It is well known in both the art of plant husbandry and animal husbandry that shredded paper can be applied as mulch ground cover and as an animal feces collection cover, i.e. liter. Therefore, both Stevens and Lombard teach a cellulosic substrate i.e. paper that receives a dye. Lombard is cited to teach that it is known to apply a pH-indicating dye solution to provide a visually detectable color transition at a particular pH level to a paper substrate (Lombard abstract) Stevens teaches it is known to dye paper (Stevens Col. 7, line 35). The Examiner maintains that the modification is merely an engineering design choice involving the selection of a known alternate dye/additive applied to a paper substrate selected for the known advantage taught by Lombard of visually indicating pH levels. The modification is merely the simple substitution and/or combination of known prior art elements to obtain predictable results.

Lombard is reasonably pertinent to the particular problem with which applicant was concerned i.e. a means of providing a visual indicate of an environmental condition such as pH areas.

Lombard teaches an environmentally safe dye for application to fiber cellulosic base material. Lombard teaches the dye can change from a blue to red (Lombard abstract) which could be considered an aesthetic effect too. It can also be argued that Stevens teaches fertilizer application and animal urine is an

old and notoriously well-known fertilizer component that is particularly desirable for application around plants that have a high nitrogen requirement. It can be argued that the motivation to combine the reference could also be to tell where a animal has urinated to identify the environmental condition of fertilization. In other words, it would have been obvious to modify/substitute the colored dye taught by Stevens with the dye of Lombard in order to identify animal urination as taught by Lombard to know a area has received nitrogen fertilization. Again, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.

For the above reasons, Stevens solely teaches a mulch mat. The Examiner argues that Stevens teaches a mulch of shredded paper. This is not true. As indicated above, Stevens teaches a mulch mat. Lombard specifically teaches celluloisc material that are light and absorbent and are made of cellulosic particles. As shown in Lombard since the pH change is only in a certain area of Lombard, only that material needs to be replaced. Since Stevens teaches a mat, one would have to replace the whole mat by the logic described by the Examiner. Further, one would never use a mat or it has never been taught to be used as an animal litter. The Examiner further states that it is well known that shredded paper can be applied as mulch ground cover. Stevens does not teach this. Stevens teaches a mulch mat.

Further, since Stevens does not teach or acknowledge any problems with the environmental conditions of the soil, it is not merely an engineering design choice to place a visual indicator for a chemical condition in the mulch of Stevens. This is not a simple substitution as there is nothing taught to substitute for. The colored dye of Stevens relates to an aesthetic dye used to make the mulch mat a green color to appear like grass. There is nothing taught to make this dye a dye such as Lombards which identifies animal urination. This is not a suggestion that would flow from the prior art as there is no problem such as is recognized by Stevens. Therefore, Claims 26-30, 38 and 50 are not obvious over the prior art.

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,324,781 to Stevens in view of U.S. Patent No. 6,019,062 to Lombard et al as applied to claim 26 above, and further in view Japanese Patent JP 01262735 A to Yanmar Agricult Equip Co LTD.

Regarding Claim 52, Stevens as modified teaches a method of placing colored mulch on top of soil; changing the colors of the mulch based on the condition of the soil. Stevens is silent on adding chemicals to the soil based on the color of the mulch. However, it is old and notoriously well-known in the art of plant husbandry to observe and test soil conditions to see if they meet the desired parameters and to adjust the parameters when necessary. Yanmar teaches the general knowledge of one of ordinary skill in the art to add fertilizer when the pH is out of desired range (Yanmar abstract and Fig. 1#2). General

knowledge that the pH of a growing medium component determines the addition of fertilizer. It would have been obvious to one of ordinary skill in the art to further modify the teachings of Stevens with the teachings of Yanmar at the time of the invention for the advantage of promoting healthy plant development. Examiner takes official notice that it is old and notoriously well-known to add fertilizer based on a pH of the soil e.g. tomato plants prefer a certain acidity in the soil for healthy development so it is general practice to test the pH to determine if and how much fertilizer is needed.

Stevens teaches a cellulosic fiber base with a dye that gives it color; Lombard is cited as general knowledge in the art of a known alternate environmentally friendly dye that is well received by a cellulosic fiber base. It has been discussed in the above paragraphs that there is motivation found in the art to combine the teachings for the colored red/blue aesthetic effect taught by Lombard along with the ability to determine if an animal has urinated in a certain region i.e. released nitrogen components into an environmental region. Stevens is concerned with promoting plant growth and providing fertilizer (Stevens Coil. 1 line 12). Yanmar teaches general knowledge in the art that healthy plant growth requires monitoring the pH to know when more fertilizer is necessary. The combination is merely the application of a known technique to a known device ready for improvement to yield predictable results.

The Examiner reiterates, applicant argues the combination of Stevens and Lombard does not teach changing colors of the mulch based on the condition of

the soil. The mulch taught by Stevens as modified by the dye of Lombard teaches a cellulosic based paper, when the paper absorbs rain water or wicks up liquid from the soil the color of the mulch will change based on the dye indicator taught by Lombard. Applicant's language again is very broad and applicant has not explicitly claimed what "condition of the soil" is the soil dry, is the soil wet, does the soil need fertilizer? Conditions of the soil could merely be wet or dry and the chemicals added to the soil could merely be water added because the mulch is indicating that the mulch and thus the soil is dry.

Yamada was cited to support the general knowledge in the art that additional fertilizer adds to a growth medium when the pH of a nutrient solution exceeds a preset range. In this case, rain water could be viewed as the nutrient solution and when it hits the mulch taught by Stevens that contains the dye of Lombard and is absorbed into the soil, the color of the mulch will indicate if the rain water pH exceeds a preset range which means the soil condition pH is effected and if requires fertilizer to adjust the pH which in turn effects the soil condition.

For the reasons stated above with regards to Stevens and Lombard, the combination of Stevens, Lombard and Yamada does not make obvious Claim 52.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,324,781 to Stevens in view of U.S. Patent No. 6,019,062 to Lombard et al. as applied to claim 26 above, and further in view of U.S. Patent No. 5,734,167 to Skelly.

Regarding Claim 32, Stevens as modified teaches coloring the mulch, but is silent on the dye is florescent. However, Skelly teaches it is old and notoriously well-known to dye agricultural products with florescent dye allowing the mulch to glow in the dark (Skelly Col. 1 line 35-45). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Stevens with the teachings of Skelly at the time of the invention since the modification is merely the selection of a known alternate coloring for the advantage of enabling safe night time agricultural operations as taught by Skelly (Skelly Col. 1 line 1-26).

For the reasons stated above for Stevens and Lombard, Claim 32 is not obvious over the prior art.

Claim 32 is rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,324,781 to Stevens in view of U.S. Patent No. 5,734,167 to Skelly.

Regarding Claim 32, Stevens teaches coloring the mulch, but is silent on the dye is florescent. However, Skelly teaches it is old and notoriously well-known to dye agricultural products with florescent dye allowing the mulch to glow in the dark (Skelly Col. 1, lines 35-45). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Stevens with the teachings of Skelly at the time of the invention since the modification is merely the selection of a known alternate coloring for the advantage of enabling safe night time agricultural operations as taught by Skelly (Skelly Col. 1, lines 1-26).

For the reasons stated above for Stevens, Claim 32 is not obvious over the prior art.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,067,140 to Thomas in view of U.S. Patent No. 6,019,062 to Lombard et al.

Regarding Claim 47, Thomas teaches a colored mulch product (Thomas abstract) comprising: a material comprising a fiber cellulose (Thomas abstract first line), clay, loam, sand, and/or a combination of same; a binding agent (Thomas Col. 1 line 30 "wetting agent" and Col. 4 line 35-41); and a dye and/or pigment (Thomas Col. 1 line 35) produced by a lifting and tumbling agglomeration operation (Thomas Col. 2 line 65-66). Thomas teaches adding fertilizer to the mulch mixture (Thomas Col. 1 line 15). The language "indicates to a user environmental conditions of the soil where the mulch is placed" is functional language/result of the use of the product that that product is "capable" of performing. The applicant has not claimed a specific type or special dye; applicant has not claimed what environmental conditions; applicant has not claimed how the dye works. Applicant has merely claimed a dye. The color from the dye is capable of indicating to the user that the mulch has been placed on a desired surface and that the environmental condition of the soil under that mulch is in a stage of fertilization since fertilizer is present in the mulch and over time will be absorbed into the soil. The mulch can also contain seeds (Thomas Col. 1, line 15), so when the mulch which is placed in position and has seeds present it

indicates to the user the "environmental conditions" of the soil is "planted". Applicant has not patentably distinguished over the prior art of record. It can also be argued that Thomas is silent on the dye indicates to a user the environmental conditions of the soil where the mulch is placed. However, Lombard et al teaches a dye indicator i.e. a pH indicating dye for application to cellulosic material such as paper (Lombard Col. 2 line 1-5 and Col. 2 line 11-15; Col. 2 line 60-67). It would have been obvious to one of ordinary skill in the art to modify the teachings of Stevens with the teachings of Lombard at the time of the invention since the modification is merely an engineering design choice involving the selection of a known alternate dye selected for the known advantage of monitoring pH levels as taught by Lombard.

Thomas teaches a mulch product made by tumbling agglomeration with a dye, fertilizer and seeds (Thomas col. 1, line 15). A similar argument applied to support the combination teachings of Stevens above can be applied to support the teachings of Thomas. The language "indicates to a user environmental conditions of the soil where the mulch is place" is functional language/result of the use of the product that the product is "capable" of performing. The applicant has not claimed a specific type of special dye; applicant has not claimed what environmental conditions; applicant has not claimed how the dye works. Applicant has merely claimed a dye. The color from the dye is capable of indicating the user that the mulch has been placed on a desired surface and that the environmental condition of the soil under that mulch is in a stage of

fertilization since fertilizer is present in the mulch and over time with be absorbed into the soil. The mulch can also contain seeds (Stevens abstract), so when the mulch is placed in position and has seeds present it indicates to the user that the "environmental condition" of that soil area is "planted". Applicant has not patentably distinguished over the prior art of record. Furthermore, Lombard teaches the dye can change from a blue to red (Lombard abstract) which could be considered an aesthetic effect too. It can also be argued that Thomas teaches fertilizer application and animal urine is an old and notoriously well-known fertilizer component that is particularly desirable for application around plants that have a high nitrogen requirement. One would motivate to monitor urine applications via the dye taught by Lombard.

Again, applicant argues that the language of the claim states that the dye indicates to a user environmental condition. The language is not "may indicate" or "can indicate" but indicates and therefore the language is not language that is capable of performing. Thomas specifically states that a dye can be added as an aesthetic quality to be pleasing to the user.

There is no reasoning to combine Lombard with Thomas. Lombard relates to cat litter which changes color when urine is placed on the litter so that the litter may be removed and thrown away. Thomas teaches a mulch with a green coloring. The coloring is not used to assist the user in discarding the mulch. For these reasons, the above claims are not obvious over the prior art.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,324,781 to Stevens in view of U.S. Patent No. 5,697,984 to Swatzina et al.

Regarding Claim 50, Stevens teaches a colored mulch product wherein the color, but is silent on the mulch product fades or disappears in response to a lack of fertilizer in the mulch. Stevens teaches the mulch product is made up of fertilizer (Stevens abstract last sentence), mulch plus fertilizer makes a mulch product. Swatzina teaches it is old and notoriously well-known to color fertilizer (e.g. red fertilizer Swatzina; Col. 2 line 31-33 and Example 4). One of ordinary skill in the art would be motivated to modify the teachings of Stevens with the teachings of Swatzina at the time of the invention for a desired aesthetic design. Stevens as modified by Swatzina, i.e. the selection of red fertilizer, would inherently teach that as the red disappears or fades from the mulch the fertilizer is disappearing too.

Regarding claim 50 applicant argues that to have the colored mulch product fade or disappear is against teaching the teachings of Stevens. Stevens teaches it is known to use fertilizer in combination with mulch and Swatzina teaches it is known to dye fertilizer to make a red fertilizer (Swatzina Col. 2 line 31-33 and Example 4). Examiner maintains it would have been obvious to one of ordinary skill in the art to modify the teachings of Stevens with red color fertilizer of Swatzina at the time of the invention as a means to identify a particular type/concentration of fertilizer and as a visual indicator that fertilizer

has been applied. Over time and fertilizer goes away the red color will inherently change, fade, disappear. Furthermore, the color of the paper portion taught by Stevens will inherently fade over time with exposure to sunlight. Since the mulch of Stevens contains fertilizer as the color of Stevens inherently fades with age it is also a visual indicator that the amount and strength of fertilizer has been depleted with age too.

For the reasons stated above for Stevens, the combination of Stevens and Swatzina do not make the claim obvious. Further, Swatzina teaches the use of dyes useful for coating foil, film and sheets, specifically for aluminum foils for the cigarette industry. Although Swatzina teaches the use of dyes, it does not teach that the dyes can change color because of an environmental condition.

Applicant believes that the application is in condition for allowance.

PMW:db

Respectfully submitted,



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